

50. (Withdrawn) The method of claim 49 further comprising coupling the thermally conductive lid to the thermally conductive layer with a thermal via.

5 **REMARKS**

Claims 22-26 are pending in the Application. Claims 1-21, 27-50 are withdrawn. Claims 22-26 currently stand rejected. Claim 22 is currently amended to better describe the invention. By the present amendment, no new matter is believed to have been added that would necessitate a new search.

10 **35 U.S.C. §103 under Strobel et al.**

The Examiner rejects claims 22-26 under 35 U.S.C. § 103 as being unpatentable over US Patent 5,635,754 (hereafter Strobel) in view of US Patent 6,303,997 (hereafter Lee).

15 As described by Applicant throughout the Specification (including between pages 20-33), many benefits and advantages derive from the disclosed combinations of a first radiation shielding base, a second radiation shielding base, and a radiation shielding lid, as for example: reduction in weight and form factor, improved hermetic sealing, improved thermal heat transfer, and improved  
20 shielding against radiation.

The Examiner asserts that it would have been obvious to one having ordinary skill in the art to modify Strobel using the teaching of Lee. Applicant

respectfully disagrees and traverses the Examiner's rejection for at last the reasons that are presented below.

Against claim 22 the Examiner has cited Strobel, in which die are shielded from radiation in a package that in all embodiments is disclosed to include a top  
5 (radiation shielding lid) and a bottom (radiation shielding base); and Lee, in which adjacent surfaces of stacked and packaged die that have a top and bottom are taught to be always separated by some open distance (Fig. 3) so as to provide adequate heat dissipation (col. 6, lines 17-18). Assuming arguendo that Strobel could be modified by Lee to improve heat dissipating performance as asserted by  
10 the Examiner, the resulting stack of packaged die would require that the die be separated by some distance as taught by Lee. As taught by Strobel, the exposed top and bottoms of the die taught by Lee would require that there be in the stack an equal number of radiation shielding lids and bases

In the case of two packaged and stacked die, Strobel modified by Lee  
15 teaches or suggests that the two die would be comprised of two radiation shielding lids and two radiation shielding bases separated by an open distance; which differs from the present invention in that two packaged and stacked die require no open distance and only one radiation shielding lid and two radiation shielding bases.

20 For at least the above stated reasons, Strobel modified by Lee fails to teach Applicant's "first radiation shielding base ... second radiation shielding base ... radiation shielding lid," and/or "coupling a bottom of the first radiation shielding

base to a top of the second package,” and/or benefits and advantages derived therefrom.

In fact, to protect against radiation that would be able enter through the open distance required by Lee, added radiation shielding material would be  
5 required to be provided on adjacent tops and bottoms of adjacent die, which is added radiation shielding material the present invention does not require. By adding additional radiation shielding material, thermal mass would be increased, which would not improve electrical or heat-dissipating performance, as is asserted by the Examiner.

10 The mere assertion by the Examiner that references can be modified or combined does not make it so, and is insufficient to establish a *prima facie* case of obviousness. Moreover, the mere fact that the modification or combination would be well within the ordinary skill in the art, by itself, is insufficient to establish a *prima facie* case of obviousness. The Examiner has the burden to show the  
15 additional step of how the knowledge of the skilled artisan leads to the suggestion or motivation. As well, the suggestion or motivation can only come from the art that existed at a time prior to the invention and cannot come from the invention itself.

The burden is on the Examiner to establish a prima case of obviousness  
20 under 35 U.S.C. § 103(a). As per MPEP § 2142, “ ... the prior art reference (or references when combined) must teach or suggest all the claim limitations.” Because the cited prior art does not teach or suggest Applicant’s claimed invention

and/or teaches away from Applicant's invention, the Examiner has failed under his burden.

Applicant accordingly requests that the 35 U.S.C. §103 rejection of claims 22 under Strobel in view of Lee be withdrawn. Also, for at least the reasons that  
5 claims 23-26 depend from claim 22, Applicant respectfully requests that the 35 U.S.C. §103 rejection of claims 23-26 be withdrawn.

### **35 U.S.C. §103 under Lee.**

The Examiner rejects Claim 22 under 35 U.S.C. § 103 as being  
10 unpatentable over Lee in view of Strobel.

The Examiner asserts that it would have been obvious to utilize "the teaching of Strobel et al including base of radiation shield and the lid onto the invention of Lee in order to form a desired base structure for preventing radiation penetrating though the integrated device." Applicant respectfully disagrees and  
15 traverses the Examiner's rejection for at last the reasons that are presented below.

Against claim 22 the Examiner has cited Lee, in which adjacent stacked and packaged die are taught to be always be separated by some open distance (Fig. 3); and Strobel, in which die are shielded from radiation in a package that in all embodiments is disclosed to include a top (radiation shielding lid) and a  
20 bottom (radiation shielding base). The distance is described by Lee to be required for providing heat dissipation. Assuming arguendo Lee could to be modified by Strobel to prevent penetration of radiation, a resulting stack of packaged die as taught by Lee would require that the packaged die be separated by some

distance, and that there be in the stack an equal number of radiation shielding lids and bases as taught to be required by Strobel. In the case of two stacked die, a package including the die would require that there be two radiation shielding lids and two radiation shielding bases.

5           However, as previously discussed above, a package requiring two radiation shielding lids and two radiation shielding bases fails to teach or suggest Applicant's claimed invention, including that of: a "first radiation shielding base ... second radiation shielding base ... radiation shielding lid," and/or "coupling a bottom of the first radiation shielding base to a top of the second package" and/or  
10   benefits and advantages derived therefrom. Furthermore, assuming arguendo that Lee modified by Strobel would prevent penetration of radiation, such effect would require that added radiation shielding material and/or an added radiation shielding layers be used.

          Thus, Lee modified by Strobel, not only fails to teach or suggest Applicant's  
15   invention, the combination of references teaches away from it, for example, as by the open distance and added radiation shielding layers and/or radiations shielding material that would be required to protect die in a stacked and packaged radiation tolerant product.

          The mere assertion by the Examiner that references can be modified or  
20   combined does not make it so, and is insufficient to establish a *prima facie* case of obviousness. Moreover, the mere fact that the modification or combination would be well within the ordinary skill in the art, by itself, is insufficient to establish a *prima facie* case of obviousness. The Examiner has the burden to show the

additional step of how the knowledge of the skilled artisan leads to the suggestion or motivation. As well, the suggestion or motivation can only come from the art that existed at a time prior to the invention and cannot come from the invention itself.

5           The burden is on the Examiner to establish a prima case of obviousness under 35 U.S.C. § 103(a). As per MPEP § 2142, “ ... the prior art reference (or references when combined) must teach or suggest all the claim limitations.” Because the cited prior art does not teach or suggest Applicant’s claimed invention and/or teaches away from Applicant’s invention, the Examiner has failed under  
10 his burden.

Applicant accordingly requests that the 35 U.S.C. §103 rejection of claims 22 under Lee in view of Strobel be withdrawn.

### **Summary**

15           Applicant submits that the foregoing remarks overcome the Examiner’s rejections. Because the cited references and the Examiner’s citations thereto do not teach and/or suggest the claimed invention, Applicant submits that the present invention is patentable over the cited art, and respectfully requests that  
20 the Examiner allow pending Claims 22-26 so that the Application may issue in a timely manner. If there are any questions concerning this Amendment, the Examiner is invited to contact the Applicant’s undersigned representative at the number provided below.

Respectfully submitted;

Date: 27 June 05

By: 

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